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# FOREST CONTROL

by

# CONTINUOUS INVENTORY

"Today I have grown taller from walking with the trees."

...Karle Wilson

Milwaukee, Wis. November, 1961 No. 92

## THE CFI FIELD AND MACHINE PLANNING SEASON IS HERE AGAIN

The period for CFI planning and data processing begins January 1 and comes to a close when field work starts early in July, 1962. During this 6-month period we are prepared to work to the best of our ability with those who are interested in Region Nine's CFI program for public and industrial forest lands. Commonly done in Milwaukee, where roundly developed models are conveniently available, this work includes most phases of planning preliminary to both field and machine work. Assistance is cheerfully given in the art of preparing flow charts and flow plans, and in the technicalities of completing all data processing work. Steps preliminary to the use of digital computer programming are also handled. Foresters in private or public employ interested in gaining a degree of self-sufficiency with data processing methods are welcome. One-week periods are set aside for field and machine planning in the early stages of the work, and another week is generally needed for the preparation of machine specifications just before the data processing is handled for each CFI case. It is wise to arrange your schedule of activities in this field as early as possible.

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CAL STOTT  
DICK SMITH



MORE ABOUT "NEL-SCRIPT," THE TREE NUMBERING TUBE PAINT

We have made a 1,250 tree test of the Nelson Paint Company, Iron Mountain, Michigan Nel-Script tube for paint numbering trees in CFI and research plots. Two cruisers working singly applied 22 tubes of paint on the trees in 62 CFI plots in Fuller Woods, Paw Paw, Michigan. The work was done early in November on plots established 12 years before, at which time the numbering was done successfully with ordinary outside white paint applied with Eagle Oiler guns.

The current test with Nelson tube paint #15 completed 2 to 3 times as many trees per gallon of paint as previous numbering techniques. 1,382 tree numbers and DBH lines, or the practical equivalent of 3,300 digits were made on quite rough barked hardwoods with one gallon of the tube paint. This is at the approximate rate of 57 tree numbers and DBH lines per tube. We anticipate a 20% increase in this count with aspen, birch and balsam fir.

At the price quoted for 5 to 14 carton lots of 24 tubes each, this application resulted in a cost of .013¢ per tree for marks that give every indication of remaining legible 15 to 20 years, in contrast to the 5 to 10-year life of ordinary paint gun numbers. Two-month old "Nel-Script" numbers in a local woods have dried well and are fully adhesive and clear.

All paint tube numbers were neat and distinct and did not drip or run. They ranged between 2" and 3" in height, with proportional width, and the thickness of the lines was about 3/16". We made no special effort to save paint in the numbering process. The outside white numbers were carefully made and placed just above the DBH line on each tree, the old tree number in most cases having been previously placed below this line.

Applying Nel-Script Tube Paint

The trial run of tube paint was completed without serious problems of application. Used without pressure instruments or guns of any sort, the paint was easily squeezed out of the tube by hand methods during a period when temperatures ranged between 25 and 55 degrees Fahrenheit. Kept warm with a pocket hand warmer, paint #15 should remain soft enough for use throughout the winter months.

It seems most convenient to locate the tree numbers as closely as possible to the DBH line; above the line for tall men; below for short ones. The paint tube is best held at right angles to the trunk of the tree. It does not work well when held at an angle. Thumb and finger pressure with both hands on the mid-section of the full tube will eject a stream of paint. The speed of ejection increases with an increase in hand pressure on the tube, which in turn requires a faster movement of the tube when making the numbers. The long nozzle is held within 1/16" of the bark surface or closer, and the paint is thus flattened slightly and the lines are broadened on the bark. The nozzle is not brought into direct contact with the bark. Extremely slow motion with the tube will result in a wasteful rounded bar of paint and this is not as desirable as a somewhat flattened

one. In all cases when the nozzle was held too far from the trunk, the paint stream fell away from the bark, especially in the crevices. It was also extremely difficult to make the paint stick to very wet trees.

After the paint has been reduced in quantity near the top of the tube, through use, it is capped and then gently and carefully rolled from the bottom until it regains its original girth. Turning keys, not now furnished with the paint, are useful though not essential to this process. The tube is seldom capped during the completion of a single plot, but it is always wise to cover the nozzle when moving from one plot to the other.

Numbers were easily placed on smooth or ridged bark as experience was gained. It is sometimes desirable to rough off loose bark with the hand before application, but in most species this is neither necessary nor desirable, being too time-consuming for continuous inventory work. It takes very little practice to lay the paint lines over combinations of bark crevice and plate on the trunk. Smaller numbers are used on the smoother barks. We anticipate increased lasting qualities on old, plated hard pines since the numbers can be placed deep in the cracks between the plates.

The paint tube is well suited to numbering small trees in the 1" to 4" diameter range. This is slow and difficult with a paint gun. We find it convenient also for marking plot center witness trees, and numbering the plot at the base of the trees.

#### Care of Nel-Script Tubes

As in the case of toothpaste tubes, pin holes and cracks sometimes develop in the container. When this happens near the top of the paint tube, it soon becomes a sticky mess, and sometimes must be thrown away. To avoid this loss and schmeer, handle the tubes gently, roll them with care, using a key if one is available, and keeping the tubes smooth and uncrinkled until placed in use. Small pin holes are sometimes patched with tape. Carrying tubes loose in pack sacks is dangerous, and has resulted in at least one paint mess terrible to behold. It is suggested that extra tubes be thoroughly immobilized for transporting in the woods or in shipping. It is wise to save a few extra caps for spare use. No difficulty in storing tube paint over periods of 1 to 3 years is anticipated. It is not expected that the paint will harden if the caps are tight, nor will oil pockets develop.

#### Summary and Conclusions

A two-week use of the Nel-Script paint tube has convinced me of its general applicability in the Lake and Central States region. I see no reason why it would not work equally well anywhere repeated tree measurements are made at 5 to 15-year intervals. It would be difficult for me now to go back to the use of the paint gun. That there is any time difference in the overall speed of use of the paint tube and the paint gun is questionable, since much time is consumed mixing and preparing paint and cleaning guns under the old procedures. There is a great deal less paint wastage with the tube, it is far cleaner, and it numbers trees much more neatly and in a more lasting manner. The tube is also light in weight and

convenient to carry. Whether the numbers will crack off of smooth barked or fast-growing trees and fall to the ground remains for time to tell. However, having previously used paint guns with thick paint from which the oil was poured, and having returned to find the numbers in excellent condition 5 years later, I have little doubt of the practical permanence of these paint tube numbers. The Nelson Paint Company, with its handy paint tubes of Nel-Script, has made a mighty fine contribution to improvement of professional forestry techniques in permanent inventory work and in research.

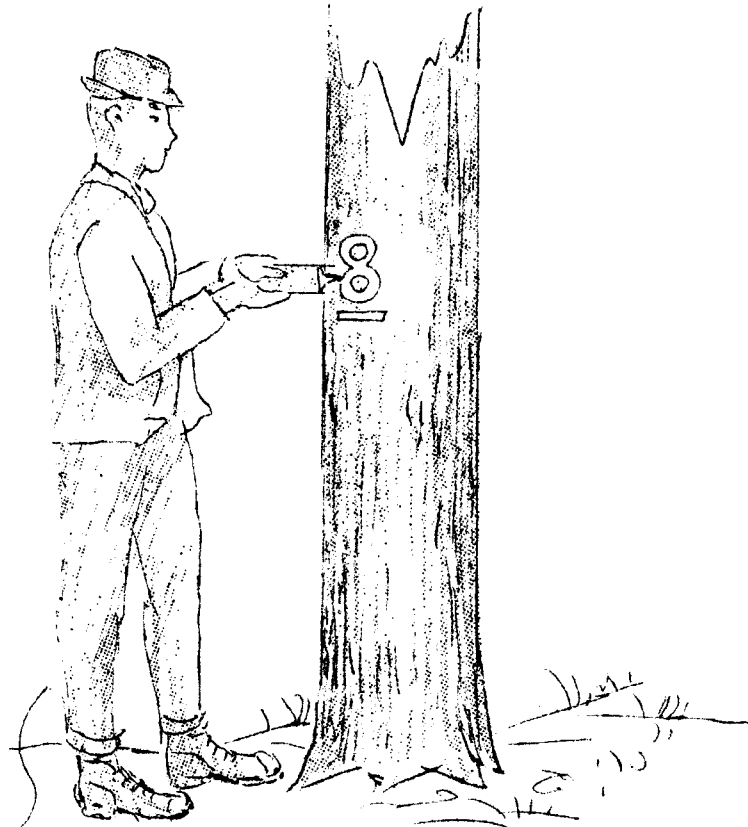
CAL STOTT  
Forester  
U. S. Forest Service, R-9

Nel-Script Prices - Cost Per Tube of Paint

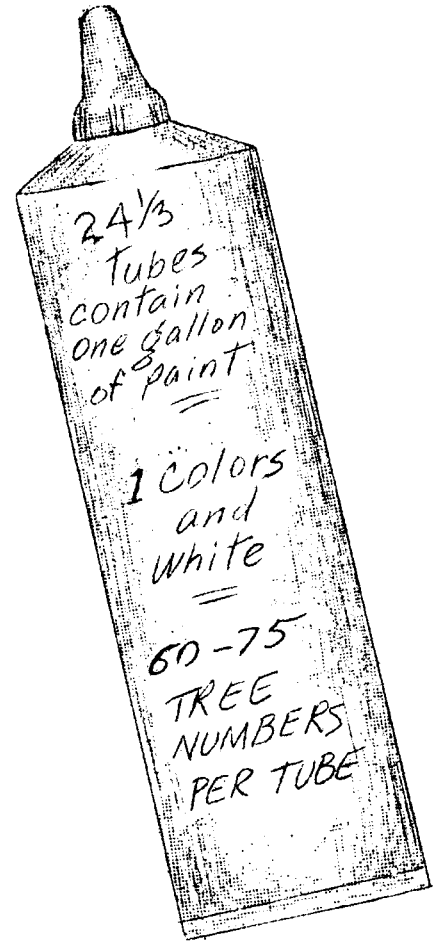
Less than 1 carton	\$1.06
1 - 4 cartons	.86
5 - 14 cartons	.76
15 - 29 cartons	.66 (delivered)
30 and over cartons	.56 (delivered)

All correspondence on Nel-Script to go directly to the Nelson Paint Company, 601 S. Carpenter Ave. Iron Mountain, Michigan.

# MAJOR FEATURES OF NEL-SCRIPT



In application, tube is held close to the bark and at right angles.



12-1800 NUMBERS PER GALLON OF PAINT

